

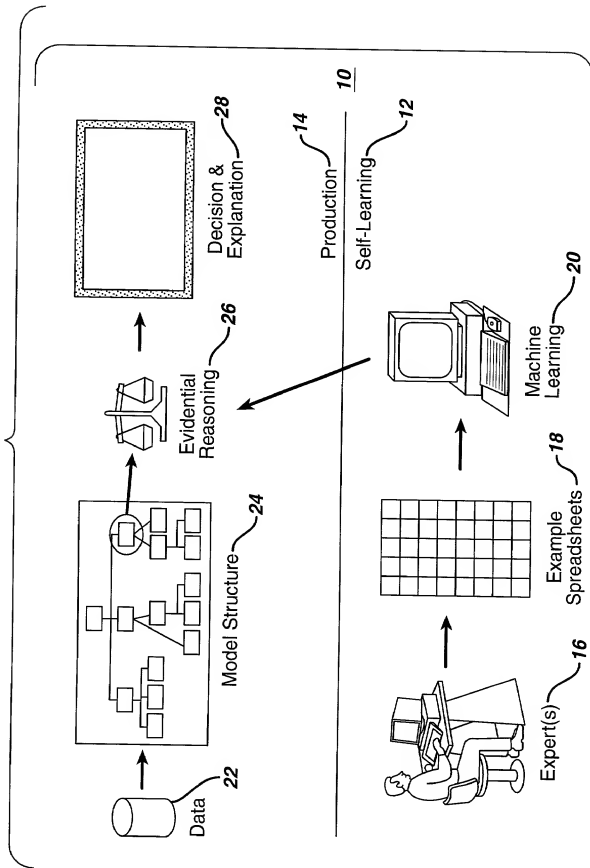
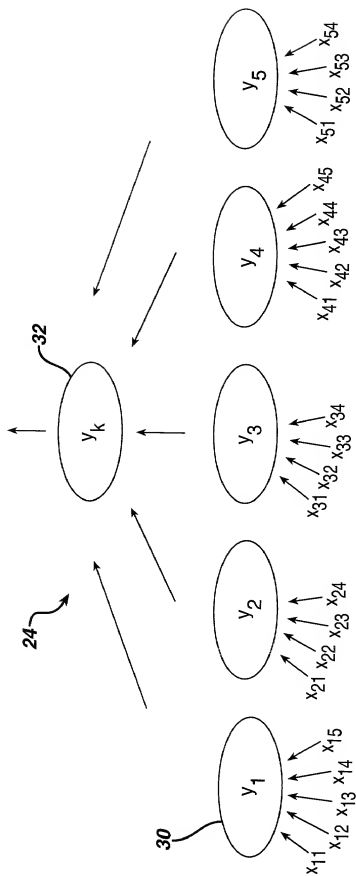
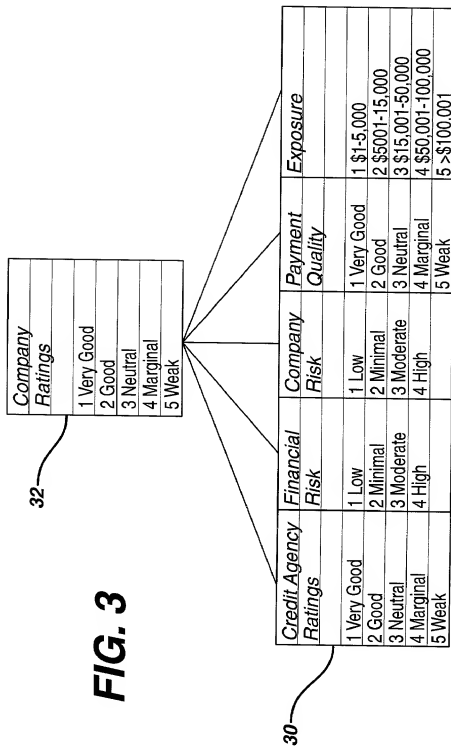
FIG. 1

FIG. 2





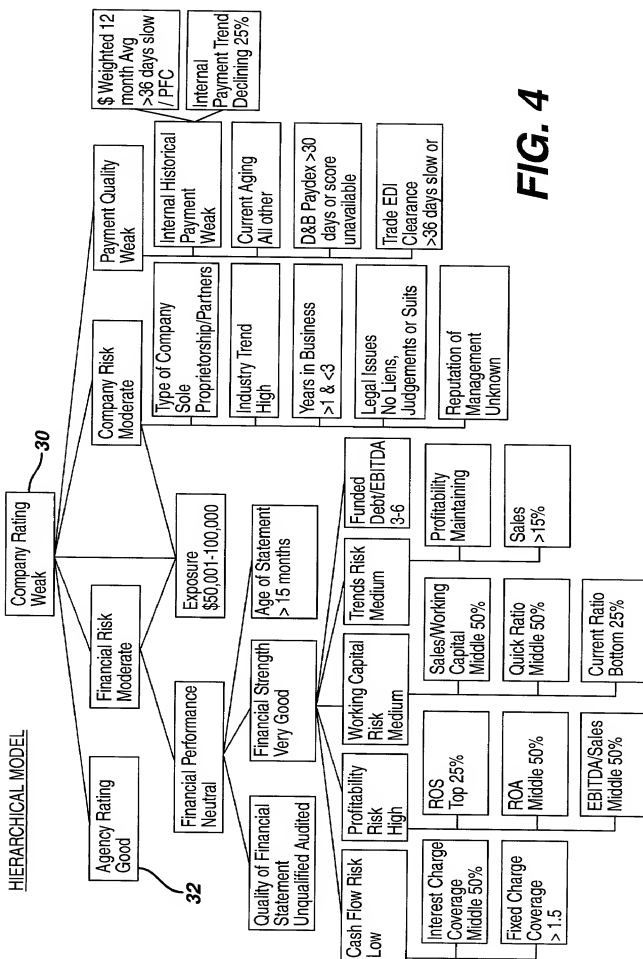


FIG. 4

D&B Mapping of Raw Data(e.g., from D&B) for Credit Agency Ratings

1. Very Good	2. Good	3. Neutral	4. Marginal	5. Weak
5A1	3A2	5A3	BB3	5A4
5A2	2A1	4A3	CB3	4A4
4A1	2A2	3A3	CC3	3A4
4A2	1A1	2A3	DC3	2A4
3A1	1A2	1A3	DD2	1A4
	BA1	BA3	EE2	BA4
	BA2	DC2	FF2	BB4
	CB1	DD1	GG2	CB4
	CB2	EE1	HH2	CC4
	CC1	FF1	1R2	DC4
	DC1	GG1	2R2	DD3
		HH1		DD4
			NL	EE3
			-	EE4
			NQ	FF3
			ER1	FF4
			ER2	GG3
			ER3	GG4
			ER4	HH3
			ER5	HH4
			ER6	1R3
			ER7	1R4
			ER8	2R3
			ER9	2R4

FIG. 5

FIG. 6

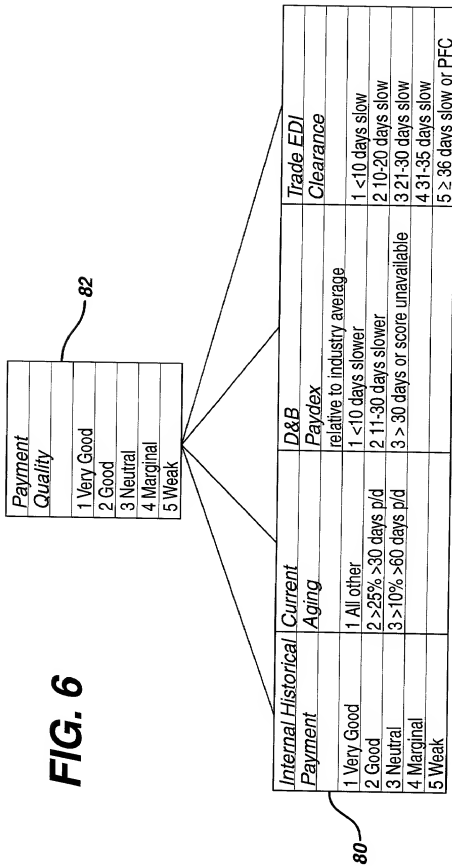
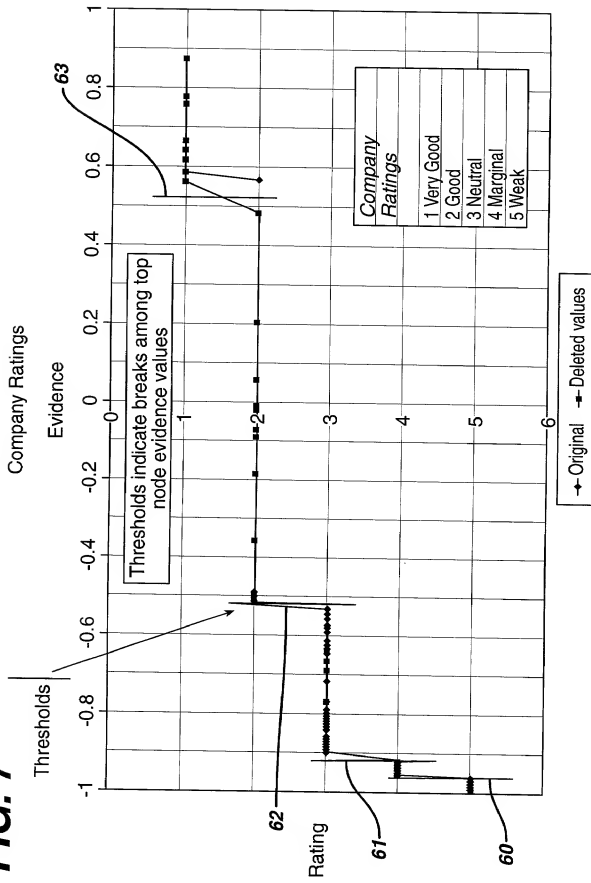


FIG. 7

30

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Company Rating

Agency Rating	Financial Risk	Company Risk	Payment Quality	Exposure	Company Rating
1 Very Good	1 Low	1 Low	1 Very Good	1 \$1-5,000	1 Very Good
2 Good	2 Minimal	2 Minimal	2 Good	2 \$5,001-15,000	2 Good
3 Neutral	3 Moderate	3 Moderate	3 Neutral	3 \$15,001-50,000	3 Neutral
4 Marginal	4 High	4 High	4 Marginal	4 \$50,001-100,000	4 Marginal
5 Weak			5 Weak	5 >\$100,001	5 Weak
Case					Comment
604	3	1	1	4	3
1521	3	1	5	1	4
1527	3	3	4	2	5
1713	2	1	3	3	2
260	3	3	2	5	4
1852	4	3	1	2	3
152	2	3	1	2	3
691	2	4	4	1	4
1659	5	1	3	2	4
588	2	4	3	3	3
1083	3	3	4	3	4
132	1	2	2	2	1
760	2	4	3	2	5
25	1	1	1	5	3
1381	4	2	4	2	2
1171	2	1	2	2	1
1156	3	3	2	1	2
1890	5	3	4	1	5
595	2	4	4	3	4
591	2	4	4	3	4
142	1	2	2	4	3
1524	5	4	1	5	4
1384	4	2	3	4	5
646	2	3	2	5	1
1704	5	2	1	4	2
1123	3	4	1	5	3
312	1	4	1	3	2
554	2	2	3	1	4
69	1	1	3	4	3
946	3	2	2	5	4

Create a statistical sample of the possible hypothetical cases
- Expert supplies his opinion or diagnosis

Used as input to machine learning technique

FIG. 8

[illegible]

FIG. 10

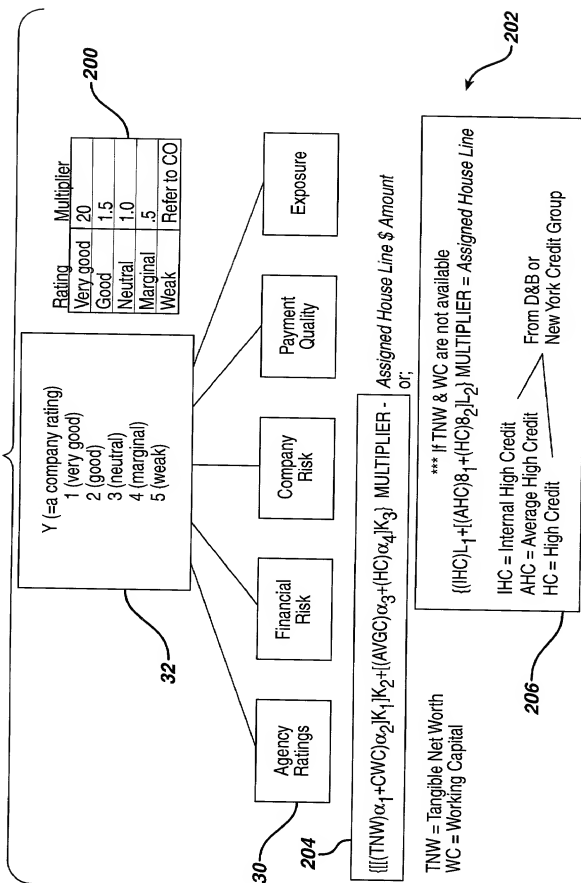


FIG. 11

30

32

Financial Risk

Financial
Performance

Exposure

Financial
Risk

Comments

Credit officers thought they know size of the company (of net worth) before they can accurately assess the risk.

1 Very Good

1 \$1-5,000

1 Low

2 Good

2 \$5001-15,000

2 Minimal

3 Neutral

3 \$15,001-50,000

3 Moderate

4 Marginal

4 \$50,001-100,000

4 High

5 Unknown

5 >\$100,001

6 Weak

Case

1

1

1

1

6

2

1

1

11

3

1

1

2

1

2

1

7

2

2

1

3

1

3

1

12

3

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4

The approach identifies values that are outside the logic developed for the majority of cases.

In all cases they were changed one "bin" value to conform. Changes were confirmed by experts.

Changed from a 2

Changed from a 3

FIG. 12

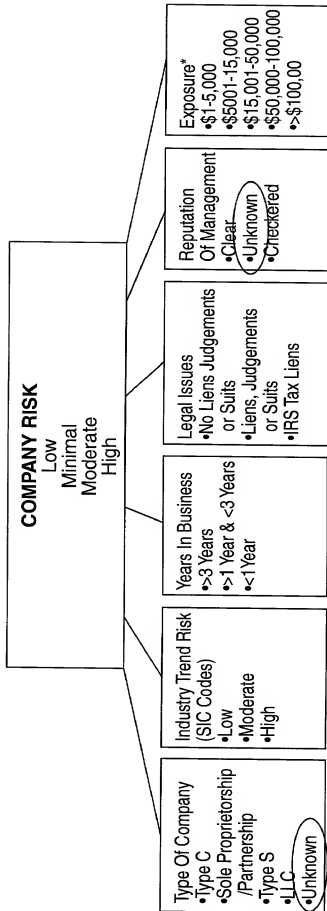


FIG. 13

Inputs

\$ Weighted 12 month Avg Internal Payment Trend	2 11-20 days slow
Sales/Working Capital	2 24% to 24% (or Unknown)
Quick Ratio	2 Middle 50%
Current ratio	2 Middle 50%
Profitability	2 Middle 50%
Sales	# Down > 10%
ROS	4 Declining
ROA	3 Bottom 25%
EBITDA/Sales	3 Bottom 25%
Agency Rating	4 Marginal
Exposure	5 > \$100,000
Type of Company	1 Type C
Industry Trend	1 Low
Years in Business	1 > 3
Legal Issues	1 No Liens, Judgements or Suits
Reputation of Management	3 Checkered
Quality of Financial Statement	1 Unqualified Audited
Age of Statement	1 < 6 months
Funded Debt/EBITDA	3 > 6 or < 0
Fixed Charge Coverage	1 > 1.5
Interest Charge Coverage	3 Bottom 25%
Current Aging	1 All other
D&B Paydex	2 11-30 days slower (or Unknown)
Trade EDI Clearance	2 10-20 days slow

Run Model

☒ Financials Known
 ☒ Payment Information Known

302

Company Rating	
Net Worth	
Working Capital	
Avg. High Credit	
High Credit	
Internal High Credit	

304

Marginal	\$0
	\$0
	\$11,005
	\$200,000
	\$150,000

306

Base Credit Line	\$108,852
Multiplier	0.5
House Line	\$54,000

308

300

13/15

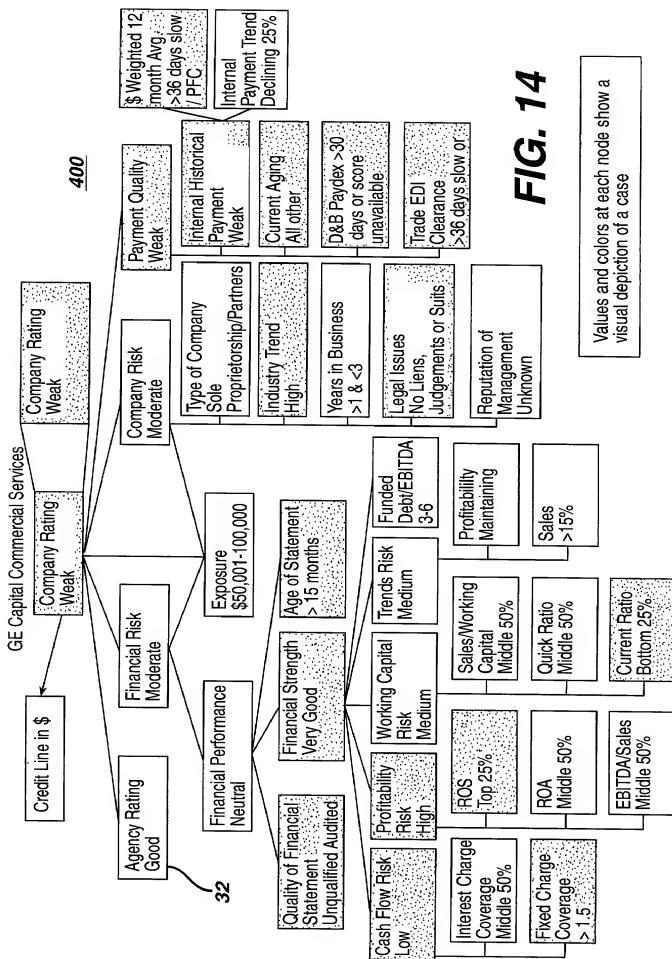


FIG. 15

500

15/15

GE Capital Commercial Service	Test Case 4	The Financial performance of:	Neutral
House Line	\$54,000.00	Was based on:	
The Overall Company Rating of:	Marginal	A Quality of Financial Statement of:	Unqualified Audited
Was based on:		A Financial Strength of:	Very Good
An Agency Rating of:	Marginal	An Age of Statement of:	15 months
A Financial Risk of:	High		
An Exposure of:	> \$100,0001	The Financial Strength of:	Very Good
A Company Risk of:	Moderate	Was based on:	
A Payment Quality of:	Good	A Cash Flow Risk of:	Low
		A Profitability Risk of:	High
The Financial Risk of:	High	A Working Capital Risk of:	Medium
Was based on:		A Trends Risk of:	Medium
A Financial Performance of:	Marginal	A Funded Debt/EBITA of:	3-6
An Exposure of:	> \$100,0001		
		The Cash Flow Risk of:	Low
The Company Risk of:	Moderate	Was based on:	
Was based on:		An Interest Charge Coverage of:	Middle 50%
A Type of Company of:	Type C	A Fixed Charge Coverage of:	> 1.5
An Industry Trend of:	Low		
Years in Business of:	>3	The Profitability Risk of:	High
Legal Issues of:	No Liens, Judgements or Suits	Was based on:	
A reputation of management of:	Checked	A ROS of:	Top 25%
		A ROA of:	Middle 50%
The Payment Quality of:	Good	An EBITA/Sales Ratio of:	Middle 50%
Was based on:			
An Internal historical payment of:	Good	The Working Capital Risk of:	Medium
A Current Aging of:	All other	Was based on:	
A D&B Paydex of:	11-30 days slower (or Unknown)	A Sales/Working Capital Ratio of:	Middle 50%
A Trade EDI of:	10-20 days slow	A Quick ratio of:	Middle 50%
		A Current ratio of:	Bottom 25%
The Internal Historical Payment of:	Good	The Trends Risk of:	Medium
Was based on:		Was based on:	
A Weighted Monthly Average of:	11-20 days slow	A Profitability of:	Maintaining
A Payment Trend of:	24% to 24% (or Unknown)	A Sales of:	> 15%